

TABLE 2.—Solar and sky radiation received on a horizontal surface.

Week beginning.	Average daily radiation.			Average daily departure for the week.			Excess or deficiency since first of year.		
	Wash- ington.	Madi- son.	Lin- coln.	Wash- ington.	Madi- son.	Lin- coln.	Wash- ington.	Madi- son.	Lin- coln.
Jan. 29....	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.
Feb. 5....	262	179	.....	+55	-26	.....	+ 67	+324	.....
12....	188	259	.....	-40	+38	.....	-214	+590	.....
19....	218	270	.....	-29	+29	.....	-420	+790	.....
26....	303	207	.....	+36	-55	.....	-170	+405	.....

## MEASUREMENTS OF THE SOLAR CONSTANT OF RADIATION AT CALAMA, CHILE.

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[Smithsonian Institution, Washington, April 3, 1922.]

In continuation of preceding publications, the following table contains the results for the solar constant of radiation obtained at Montezuma, near Calama, Chile, in January, 1922. The values of  $p/p_{sc}$  are given in air mass 2, or, if not, the air mass is stated. The reader is referred for further statements regarding the arrangement and meaning of the table to the REVIEW for February, August, and September, 1919.

The observers report that during an observation about the middle of January, in a very high gust of wind, the diaphragm, which restricted the observation of the pyranometer to a definite region of sky around the sun, was blown away, and though searched for it could not be found anywhere on the mountain. The new pyranometer, referred to in this REVIEW for December, had not been compared with the old one as much as was thought desirable, and pending orders from Washington the observers reverted entirely to the long method of observation during the remainder of January, February and a part of March.

The observers call attention to the very high excellence of many of the long-method observations taken in January. This is in line with the statements of the writer in the article above cited.

The reader may note that from about the 8th of December there was a rapid fall of the solar-constant values, but that unfortunately from December 14 to January 8 ensued a period of very cloudy weather during which observations could not be taken. From January 8 there was a correspondingly rapid rise of solar-constant values. In general, the months of December and January, however, differed little from the mean of several

years at the Chilean station, and have not, like the months of December and January of 1920 and 1921 been remarkable for exceptionally high values.

Date.	Solar constant.	Method.	Grade.	Transmission coefficient at 0.5 micron.	Humidity.			Remarks.
					$p/p_{sc}$ .	V. P.	Rel. hum.	
1922.								
A. M.								
Jan. 8....	1.923	M <sub>1</sub>	S-	0.850	0.488	0.40	21	Cirri scattered about sky.
P. M.								
11....	1.903	M <sub>1.75</sub>	U	.852	2.470	.53	38	Clouds scattered about sky.
12....	1.932	W. M.	S-	.857	.502	.42	21	Cumuli in east and west.
13....	1.937	M <sub>1.5</sub>	S-	.857	2.534	.38	19	Clouds in east and west.
A. M.								
14....	1.892	M <sub>1.84</sub>	S-	.857	4.507	.45	30	Clouds scattered about sky.
15....	1.950	M <sub>2</sub>	S	.861	.556	.60	49	Cirri in north, cumuli in south.
16....	1.962	W. M.	S	.866	2.638	.25	22	Some cirri in north.
17....	1.971	M <sub>2.32</sub>	S	.868	.600	.32	24	Cloudless.
P. M.								
19....	1.958	M <sub>1.75</sub>	S-	.870	2.653	.27	12	Do.
20....	1.936	E <sub>0</sub>	VG+	.861	7.568	.21	11	Do.
A. M.								
21....	1.959	E <sub>0</sub>	E	.857	.662	.18	16	Do.
22....	1.941	E <sub>0</sub>	E+	.859	2.490	.27	26	Do.
24....	1.937	E <sub>0</sub>	E	.855	.468	.38	35	Do.
P. M.								
25....	1.927	E <sub>0</sub>	E	.846	.414	.46	22	Clouds over high peaks.
A. M.								
26....	1.936	E <sub>0</sub>	E+	.856	.454	.46	38	Cloudless.
P. M.								
27....	1.944	E <sub>0</sub>	E	.844	.536	.46	24	Clouds over high peaks.
A. M.								
28....	1.951	E <sub>0</sub>	E	.852	2.462	.51	53	Cloudless.
P. M.								
30....	1.987	E <sub>0</sub>	E+	.837	.520	.42	23	Clouds scattered about sky.
A. M.								
31....	1.950	E <sub>0</sub>	E <sub>2</sub>	.851	.402	.54	49	Cirri in north and east.

<sup>1</sup> Air mass 1.00.<sup>2</sup> Air mass 1.79.<sup>3</sup> Air mass 1.84.<sup>4</sup> Air mass 1.85.<sup>5</sup> Air mass 1.84.<sup>6</sup> Air mass 1.75<sup>7</sup> Air mass 2.30.<sup>8</sup> Air mass 2.49.<sup>9</sup> Air mass 2.28.